

SHANNON L PELINI (as of August, 2009)

RESEARCH INTERESTS & SKILLS

My research examines the ecological complexities and consequences of climate change, particularly as they relate to changes in ecosystem services. I use insect model systems to explore the role of species interactions and adaptation in determining species' responses to climate change.

EDUCATION & TRAINING

Ph.D. (2009), University of Notre Dame; Biological Sciences (advisor: Jessica Hellmann)

B.S. (2002), Westminster College, New Wilmington, PA; Biology

APPOINTMENTS

March 2009 - Present: Post-doctoral researcher, Harvard Forest (advisors: Aaron Ellison, Nick Gotelli, Rob Dunn, Nate Sanders)

August 2004 - March 2009: Graduate teaching/research assistant, University of Notre Dame

May 2002 - July 2004: Lab manager for Hope Hollocher, University of Notre Dame

PUBLICATIONS

Peer Reviewed:

Pelini SL, JDK Dzurisin, KM Prior, CM Williams, TD Marsico, BJ Sinclair, JJ Hellmann. 2009.

Translocation experiments in butterfly species reveal limitations to range shifts under climate change.

Proceedings of the National Academy of Sciences 106:11160-11165.

Prior KM, JDK Dzurisin, SL **Pelini**, JJ Hellmann. 2009. Biology of larvae and adults of *Erynnis propertius* at the northern edge of its range. *The Canadian Entomologist* 141: 161-171.

Hellmann JJ, SL **Pelini**, K Prior and JDK Dzurisin. 2008. The abundance and local adaptation of contrasting butterfly species at the edge of their geographic range. *Oecologia* 157: 583-592.

Pelini SL, JA Keppel, AE Kelley and JJ Hellmann. A geographic mosaic of host plant specialization prevents rapid insect responses to climate change. Submitted.

Williams CM, SL **Pelini**, JJ Hellmann, BJ Sinclair. Intra-individual variation allows an explicit test of the hygric hypothesis for discontinuous gas exchange in insects. Submitted.

Book Chapters and Reviews:

Pelini SL. In press. Species: Adaptation. In *Encyclopedia of Climate and Weather*, 2nd edition, edited by S. Schneider. Oxford University Press, New York.

Pelini SL. In press. Butterflies. In *Encyclopedia of Climate and Weather*, 2nd edition, edited by S. Schneider. Oxford University Press, New York.

Pelini SL, KM Prior, DJ Parker, JDK Dzurisin, RL Lindroth, JJ Hellmann. 2009. Climate change and temporal and spatial mismatches in insect communities. In *Climate Change: Observed Impacts on Planet Earth*, edited by Trevor Letcher. Elsevier, Inc. Amsterdam.

Gray (Pelini) SL. 2006. Book Review of Butterflies: Ecology and Evolution Taking Flight, Edited by C. L. Boggs, W. B. Watt and P. R. Ehrlich. *American Midland Naturalist*. 155(1): 250.

PRESENTATIONS

Energy, Citizens and Economic Transformation for Indiana and America Conference, University of Notre Dame. July 2008. Climate Change Impacts on Biodiversity. SL Pelini, JA Keppel, M Stachura, C Lambert, K Hill, JJ Hellmann.

Ecological Society of America, Madison, WI. August 2008. The role of adaptation and differentiation in geographic range shifts under climate change. SL Pelini, JJ Hellmann.

Ecological Society of America. Madison, WI. August 2008. The role of host plant transitions in the performance of a locally adapted specialist butterfly. JA Keppel, SL Pelini, JJ Hellmann.

Global Change and Education Program Workshop, US Department of Energy, Washington, D.C. August 2008. Predicting the impact of climate change on animal distributions: A test of the range-shift capacity in two butterfly species.

Principal investigator's annual meeting, Program for Ecosystem Research, US Department of Energy, Rhinelander, WI. July 2007. Predicting the impact of climate change on species distributions: The importance of local adaptation and species traits.

Midwest Ecology and Evolution Conference. Kent State University. March 2006. Climate-driven range shifts: Investigation of the underlying geographical patterns in fitness in contrasting Lepidopteran species.

Environmental and Education Research Symposium, University of Notre Dame. November 2005. The abundance and local adaptation of contrasting butterfly species at the edge of their geographic range.

Evolution, University of Colorado. June 2004. Assessing reproductive isolation between *D. melanogaster* and *D. simulans* through germline development and complementation assays using the candidate gene.

Midwest Drosophila Regional Conference, University of Illinois. October 2002. Characterization of *pumilio* in hybrid rescue of crosses between *D. melanogaster* and *D. simulans*.

SYNERGISTIC ACTIVITIES

Collaboration & Outreach:

Invertebrate Impacts on Ecosystem Services under Climate Change, LTER All Scientists Meeting. Workshop co-organizer.

Coordinated Approaches to Address Long-Term Issues in Global Change Experiments, US Department of Energy and National Science Foundation. Workshop participant and manuscript co-author.

Oak Ridge National Lab. Invited seminar: Predicting the impact of climate change on animal distributions: A test of the range-shift capacity in two butterfly species.

University of Tennessee, Department of Ecology and Evolutionary Biology. Invited seminar: Can specialist species move ahead? The role of host plant transitions in climate-driven range shifts for a specialist butterfly species.

Communicating Science in a Policy Context, University of Notre Dame. Workshop participant.

Preparation for Graduate School Seminar, Harvard Forest REU program. Invited panelist.

Ethics Day, Harvard Forest. Invited panelist: The carbon footprint of global change experiments.

Ecology Lecturer, University of Notre Dame. Invited guest lecture: Agroecology.

Ecology Lecturer, Southern Oregon University, Invited lecture: Plant-Insect Interactions.

Co-organizer of EEE graduate seminar, University of Notre Dame

Graduate student liaison for undergraduate seminar series, University of Notre Dame

Science fair judge, Kennedy Elementary School, South Bend, IN

Volunteer in Casserole Program, Center for the Homeless, South Bend, IN

Peer reviewer: *Arctic, Antarctic and Alpine Research, Biological Conservation, Conservation Biology, Environmental Engineering Science, Evolution, Southern Nevada Agency Partnership*

Awards:

NSF Research Assistantship for High School Students Supplement

Sigma Delta Epsilon/Graduate Women in Science Grant

Sigma Xi Grant in Aid of Research

University of Notre Dame Graduate School Travel Grant

Department of Energy Graduate Research and Education Fellowship

University of Notre Dame Kaneb Center Outstanding Graduate Student Teaching Award

University of Notre Dame Alumni Association Distinguished Graduate Student Award

PROFESSIONAL SOCIETIES

Ecological Society of America

Sigma Delta Epsilon, Graduate Women in Science

Society of American Naturalists
GOERT (Garry Oak Ecosystem Recovery Team)
Sigma Xi